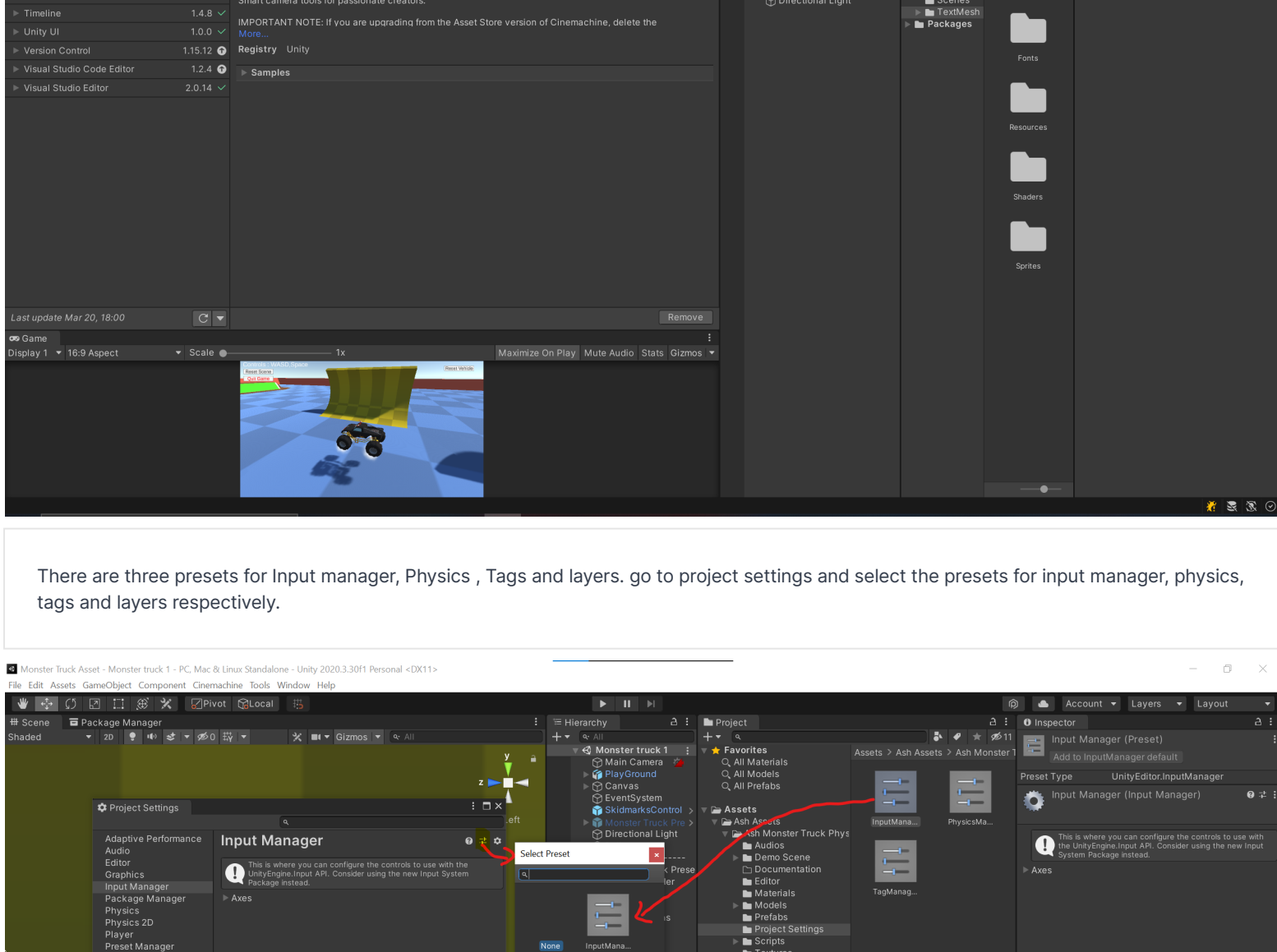


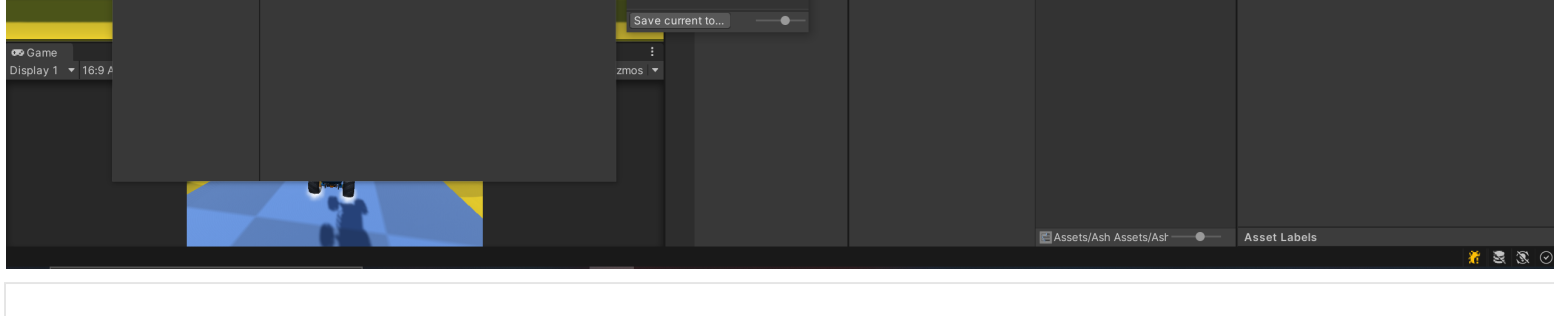
For questions or problems join discord : <https://discord.com/invite/sEWwDGr>  
For Arcade vehicle physics check out Ash Vehicle Physics : <http://u3d.as/2ktP>

## Project Settings

First of All Make sure you have Cinemachine package installed. By going to package manager in unity registry and searching cinemachine.



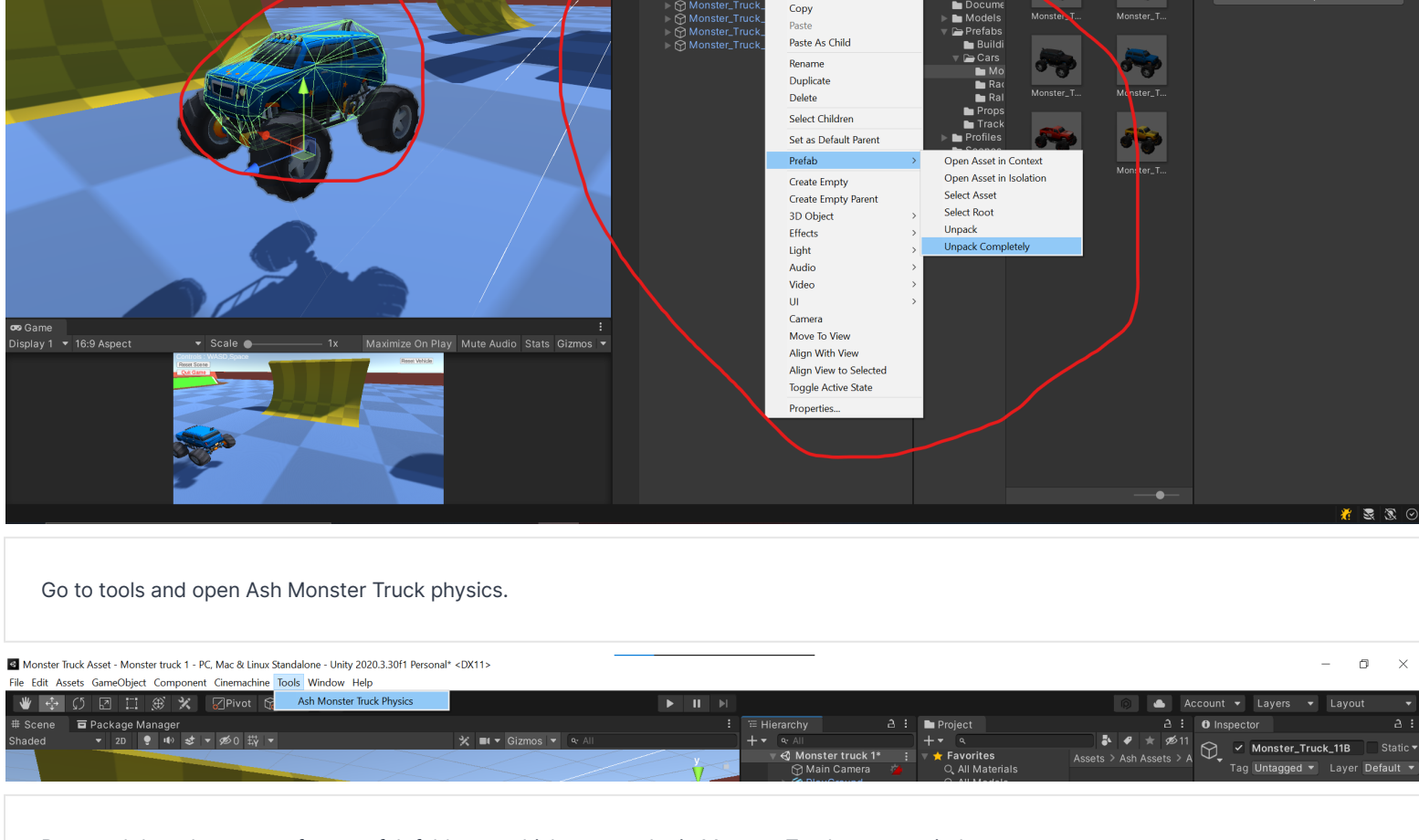
There are three presets for Input manager, Physics , Tags and layers. go to project settings and select the presets for input manager, physics, tags and layers respectively.



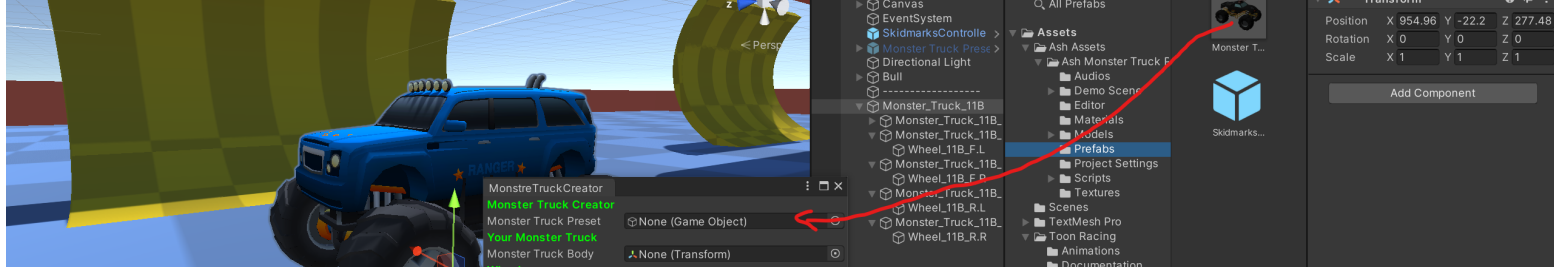
Make sure you have assigned drivable layer to all the surfaces you want your vehicle to be drivable on ( like road , terrain, plane). Check the demo scene for better understanding.

## Quick Setup

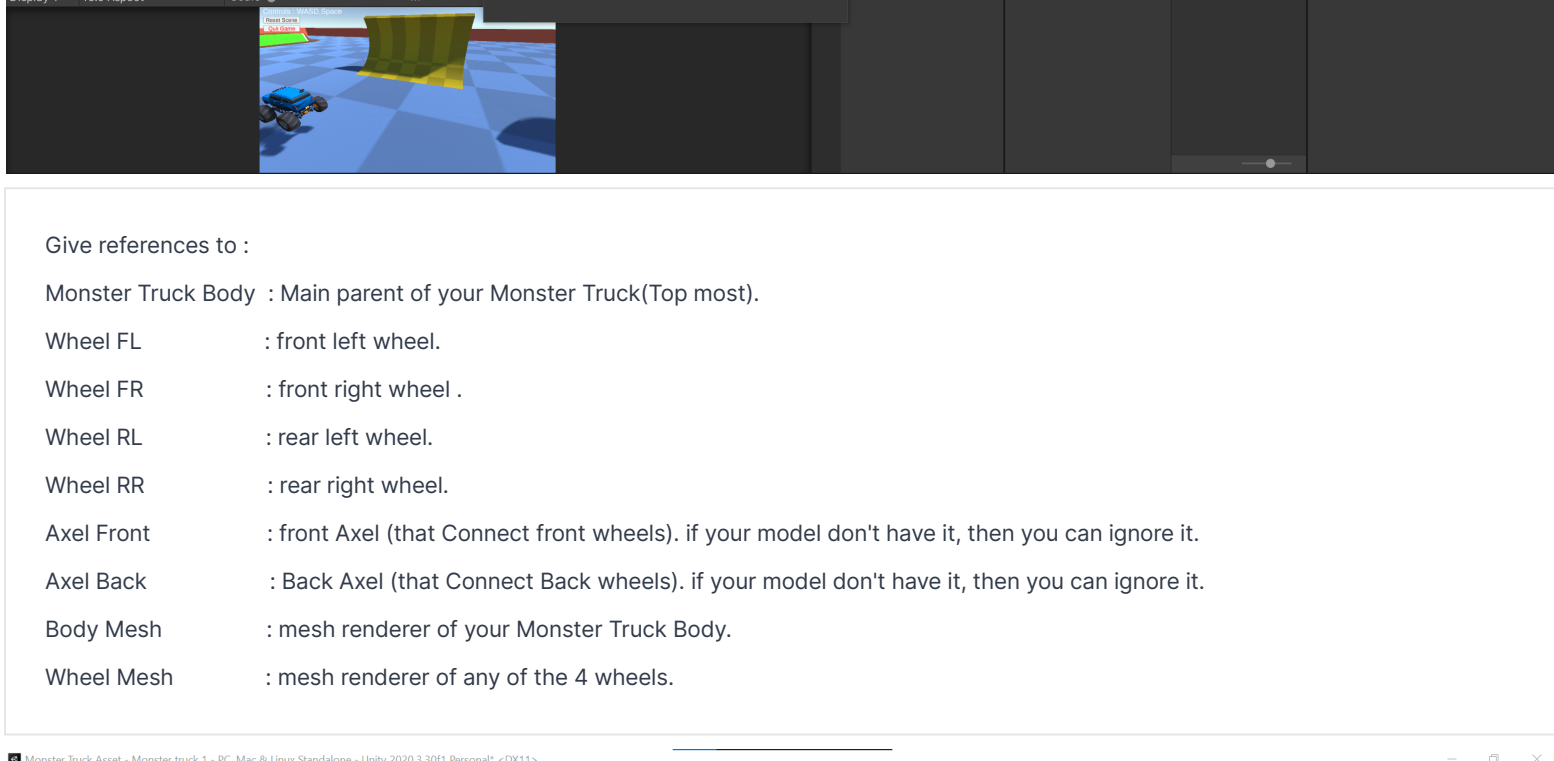
Unpack your vehicle prefab completely and remove all colliders and rigid body components if present on vehicle.



Go to tools and open Ash Monster Truck physics.



Drag and drop the presets from prefab folder to vehicle preset slot in Monster Truck creator window



Give references to :

Monster Truck Body : Main parent of your Monster Truck(Top most).

Wheel FL : front left wheel.

Wheel FR : front right wheel .

Wheel RL : rear left wheel.

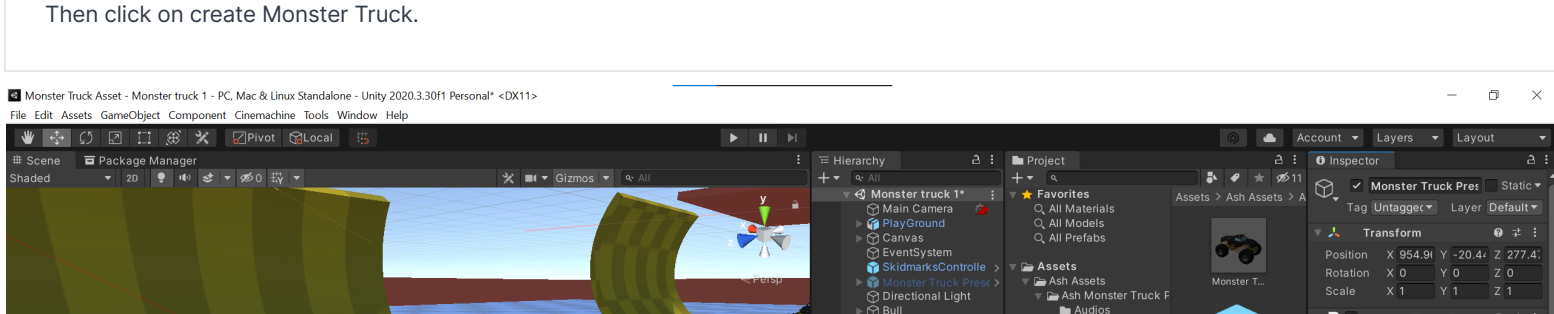
Wheel RR : rear right wheel.

Axel Front : front Axel (that Connect front wheels). if your model don't have it, then you can ignore it.

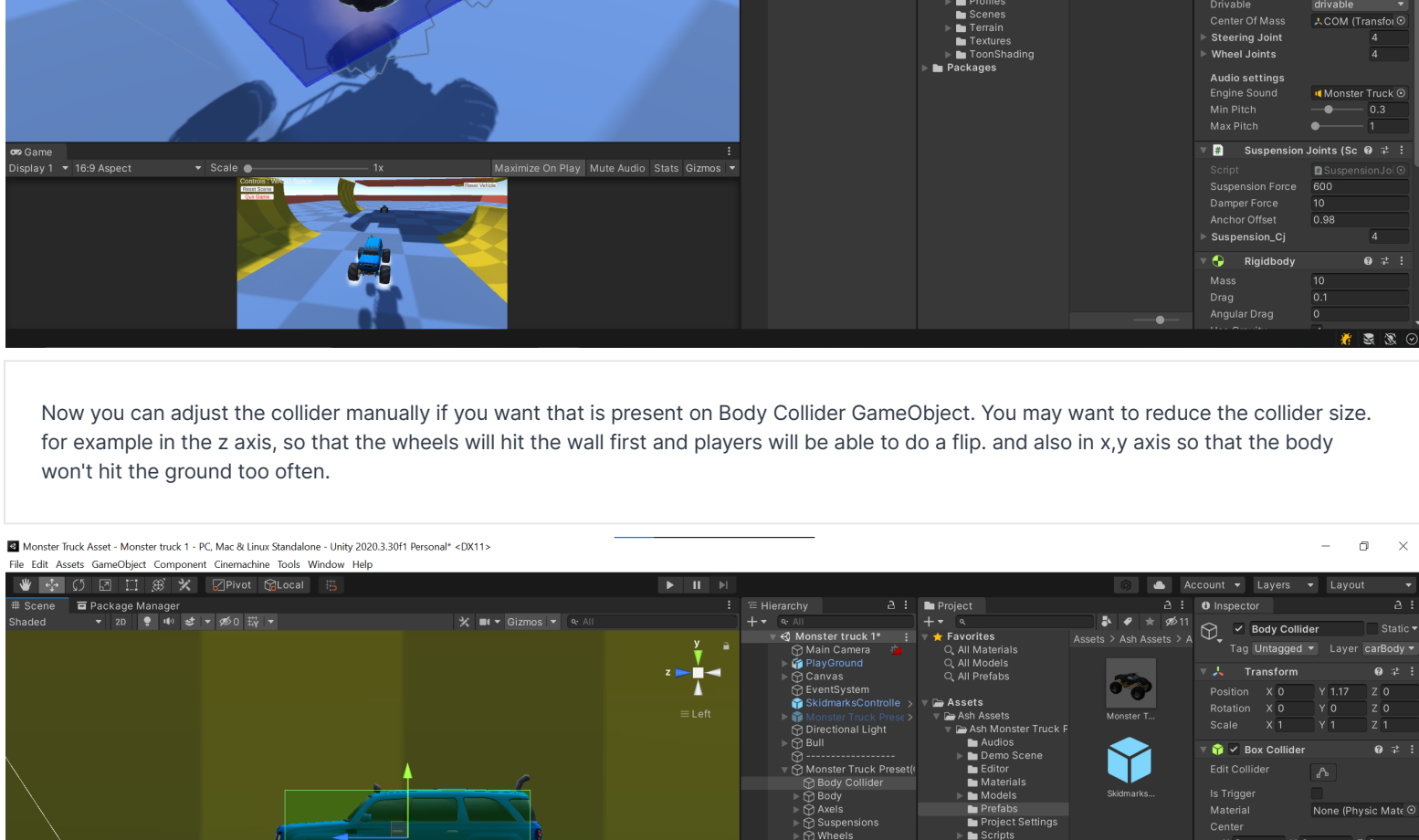
Axel Back : Back Axel (that Connect Back wheels). if your model don't have it, then you can ignore it.

Body Mesh : mesh renderer of your Monster Truck Body.

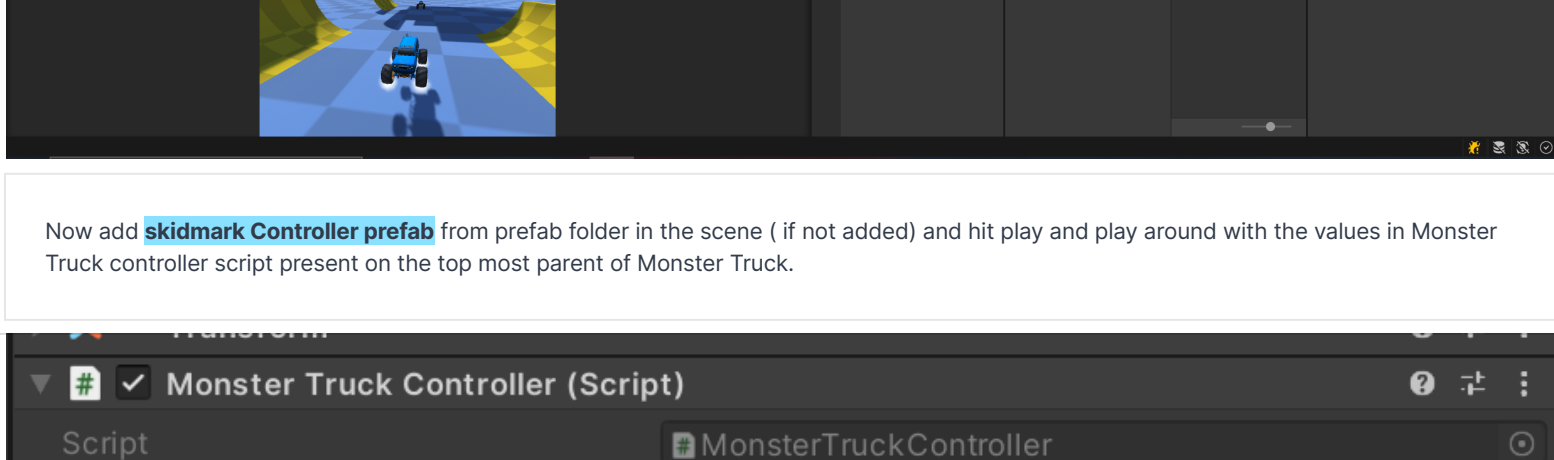
Wheel Mesh : mesh renderer of any of the 4 wheels.



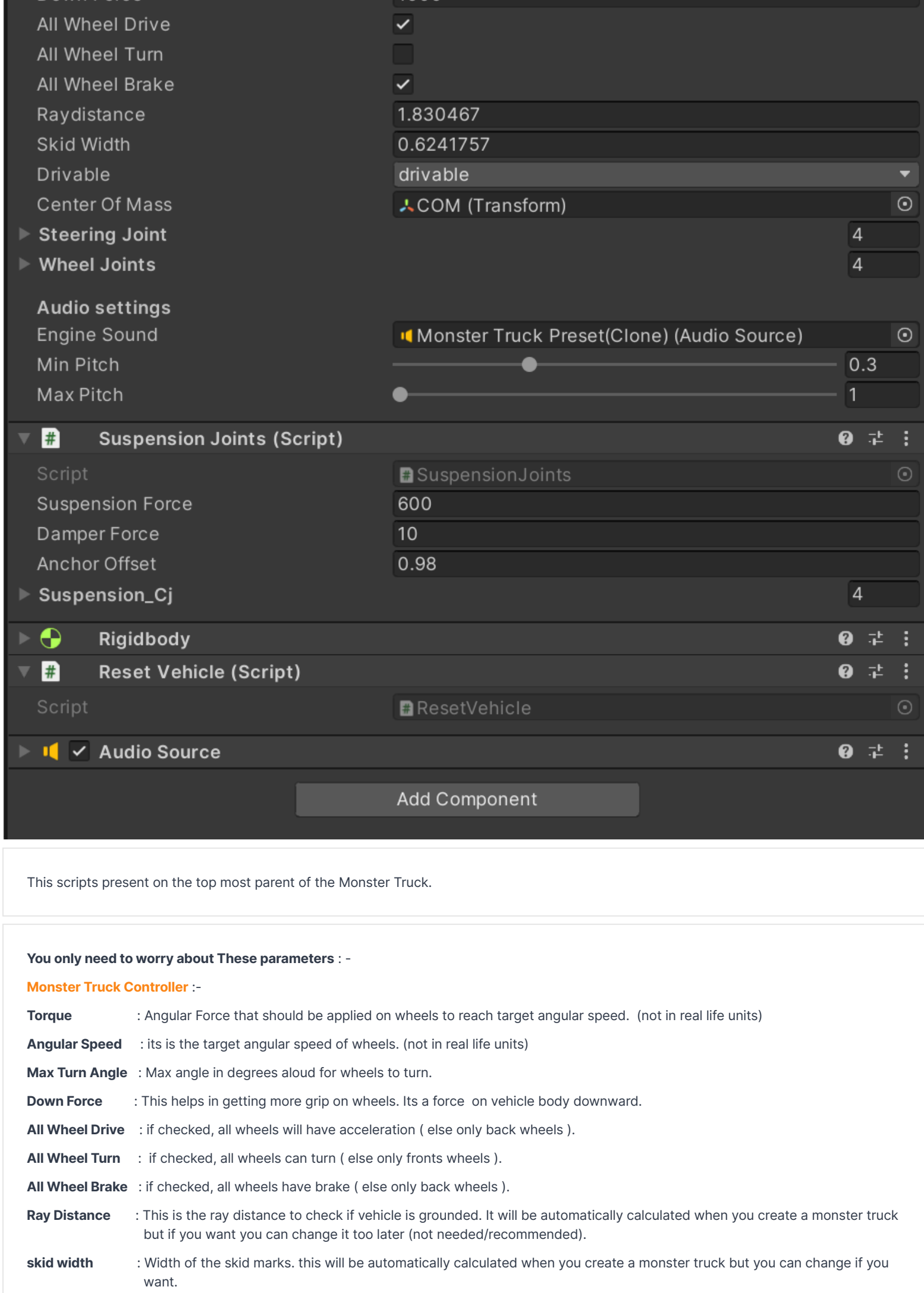
Then click on create Monster Truck.



Now you can adjust the collider manually if you want that is present on Body Collider GameObject. You may want to reduce the collider size, for example in the z axis, so that the wheels will hit the wall first and players will be able to do a flip, and also in x,y axis so that the body won't hit the ground too often.



Now add **skidmark Controller prefab** from prefab folder in the scene ( if not added) and hit play and play around with the values in Monster Truck controller script present on the top most parent of Monster Truck.



This scripts present on the top most parent of the Monster Truck.

You only need to worry about These parameters : -

**Monster Truck Controller :-**

**Torque** : Angular Force that should be applied on wheels to reach target angular speed. (not in real life units)

**Angular Speed** : its is the target angular speed of wheels. (not in real life units)

**Max Turn Angle** : Max angle in degrees aloud for wheels to turn.

**Down Force** : This helps in getting more grip on wheels. Its a force on vehicle body downward.

**All Wheel Drive** : If checked, all wheels can have acceleration ( else only back wheels ).

**All Wheel Turn** : If checked, all wheels can turn ( else only front wheels ).

**All Wheel Brake** : If checked, all wheels have brake ( else only back wheels ).

**Ray Distance** : This is the ray distance to check if vehicle is grounded, It will be automatically calculated when you create a monster truck but if you want you can change it too later (not needed/ recommended).

**skid width** : Width of the skid marks. this will be automatically calculated when you create a monster truck but you can change if you want.

**Drivable** : layer that you want your vehicle to be drivable on. It will be drivable on all surface but on Drivable surface it will add downforce which means vehicles grip is more on this surface.

**Centre Of mass** : this helps in stabilizing vehicle if its about to flip. its position will also be automatically calculated when you create monster truck but you can change later. keeping it around wheels height is good. if you don't want it to be stabilize then just reset its(COM) position .

**Engine Sound** : Audio source of engine sound. you can change engine audio clip but it should be loop able.

**Min Pitch** : Minimum pitch of engine sound (at 0 speed).

**Max Pitch** : Maximum pitch of engine sound (at Max speed).

**Suspension Joint Script :-**

**Suspension Force** : it is the spring force of suspension (how soft or stiff it should be).

**Damper Force** : Damper Force of the spring.

**Anchor offset** : From which point should the axels attached to the vehicle body.